**PROBLEM 7.37**

For the beam and loading shown, (a) draw the shear and bending-moment diagrams, (b) determine the maximum absolute values of the shear and bending moment.

![Diagram](image1)

**PROBLEM 7.39**

For the beam and loading shown, (a) draw the shear and bending-moment diagrams, (b) determine the maximum absolute values of the shear and bending moment.

![Diagram](image2)

**PROBLEM 7.62**

In order to reduce the bending moment in the cantilever beam AB, a cable and counterweight are permanently attached at end B. Determine the magnitude of the counterweight for which the maximum absolute value of the bending moment in the beam is as small as possible and the corresponding value of \( |M_{\text{max}}| \).

Consider (a) the case when the distributed load is permanently applied to the beam, (b) the more general case when the distributed load may either be applied or removed.

![Diagram](image3)

**PROBLEM 7.68**

Using the method of Section 7.6, solve Problem 7.34.

**PROBLEM 7.34** For the beam and loading shown, (a) draw the shear and bending-moment diagrams, (b) determine the maximum absolute values of the shear and bending moment.

![Diagram](image4)